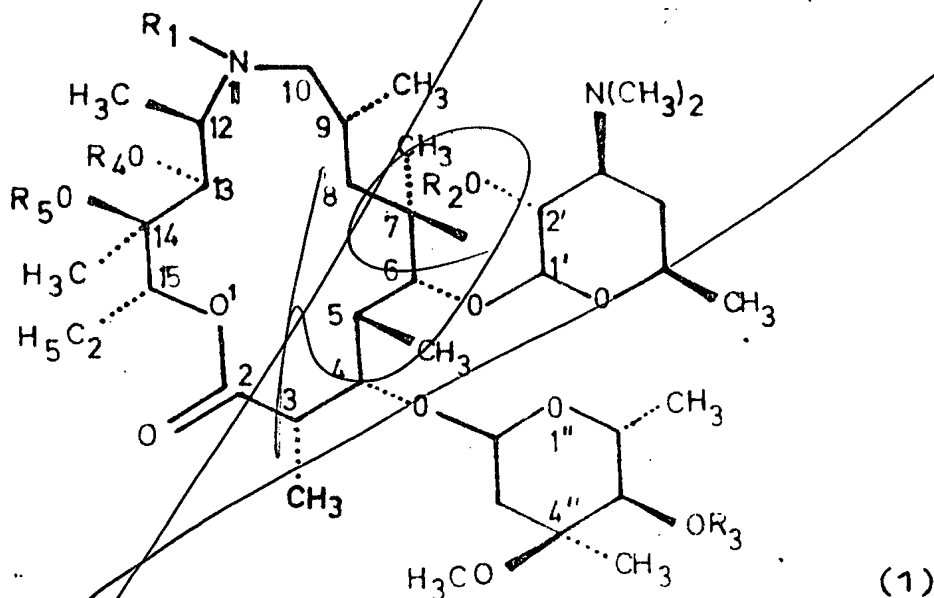


WHAT IS CLAIMED IS:

1. New erythromycin A compounds of the formula

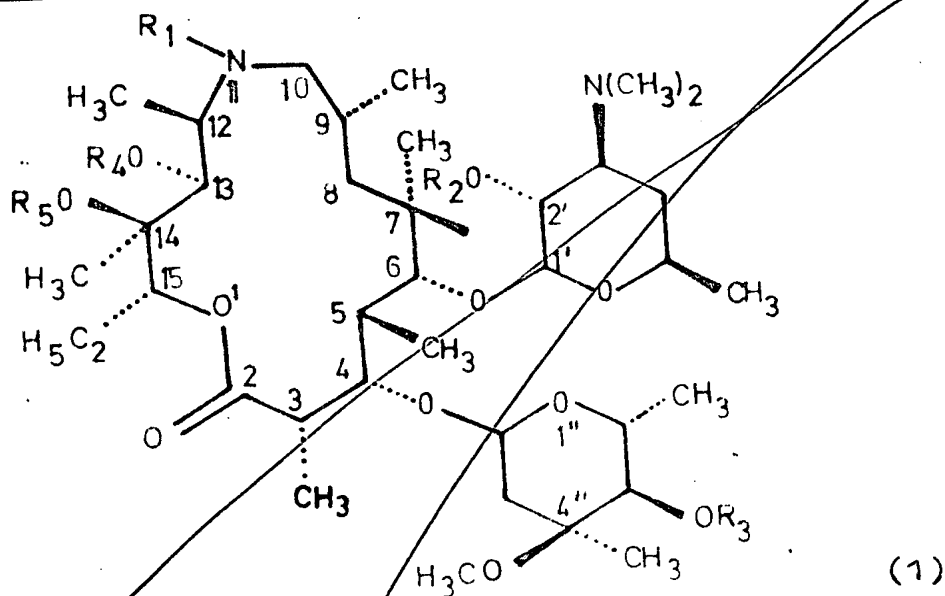


wherein  $R_1$  stands for methyl, whereas  $R_2$ ,  $R_3$ ,  $R_4$  and  $R_5$ , which may have equal or different meanings, stand for hydrogen atoms,  $C_1$ - $C_3$ -alkanoyl groups or  $R_4$  and  $R_5$  together form a  $>C=O$  group.

2. N-methyl-11-aza-10-deoxo-10-dihydro erythromycin A.
3. 2'-acetyl-N-methyl-11-aza-10-deoxo-10-dihydro erythromycin A.
4. 2',4''-diacetyl-N-methyl-11-aza-10-deoxo-10-dihydro erythromycin A.
5. 2'-propionyl-N-methyl-11-aza-10-deoxo-10-dihydro erythromycin A.
6. 2',4''-dipropionyl-N-methyl-11-aza-10-deoxo-10-dihydro erythromycin A.
7. N-methyl-11-aza-10-deoxo-10-dihydro erythromycin A 13,14-cyclic carbonate.

15

8. 2'-acetyl-N-methyl-11-aza-10-deoxo-10-dihydro erythromycin A 13,14-cyclic carbonate.
9. 2',4"-diacetyl-N-methyl-11-aza-deoxo-10-dihydro erythromycin A 13,14-cyclic carbonate.
10. 2'-propionyl-N-methyl-11-aza-10-deoxo-10-dihydro erythromycin A 13,14-cyclic carbonate.
11. 2',4"-dipropionyl-N-methyl-11-aza-10-deoxo-10-dihydro erythromycin A 13,14-cyclic carbonate.
12. A process of manufacture of erythromycin A compounds of the general formula



wherein  $R_1$  stands for methyl, whereas  $R_2$ ,  $R_3$ ,  $R_4$  and  $R_5$ , which may have equal or different meanings, stand for hydrogen atoms,  $C_1-C_3$ -alkanoyl groups or  $R_4$  and  $R_5$  together form a  $>C=O$  group, which comprises

- a) reacting 11-aza-10-deoxo-10-dihydro erythromycin A of the above formula (1), wherein  $R_1$ ,  $R_2$ ,  $R_3$ ,  $R_4$  and  $R_5$  are identical and stand for hydrogen atoms, with formaldehyde,

- b) reacting the obtained product of the formula (1), wherein  $R_1$  stands for methyl and  $R_2, R_3, R_4$  and  $R_5$  all stand for hydrogen atoms, with ethylene carbonate, and
- c) subjecting the products, obtained in the above steps a) and b), to acylation with carboxylic acid anhydrides of the formula



wherein  $R_6$  and  $R_7$  correspond to the meanings of  $R_2$  and  $R_3$  resp. or  $R_4$  and  $R_5$  resp., with the provision that they stand for  $C_1-C_3$  alkanoyl groups.

13. A process as claimed in claim 12, wherein the step a) is carried out with a 1-3 molar excess of formaldehyde and formic acid in an inert organic solvent.
14. A process as claimed in claim 12, wherein the step a) is carried out at about reflux temperature.
15. A process as claimed in claim 13, wherein the solvent is chloroform or carbon tetrachloride.
16. A process as claimed in claim 12, wherein the step b) is performed with a 1-6 molar excess of ethylene carbonate in the presence of an alkali and of an inert organic solvent.
17. A process as claimed in claim 12, wherein the step b) is performed at a temperature of about  $60^\circ$  to  $80^\circ\text{C}$ .
18. A process as claimed in claim 16, wherein the solvent is benzene or ethyl acetate.
19. A process as claimed in claim 16, wherein the alkali is  $K_2CO_3$ .
20. A process as claimed in claim 12, wherein the step c) is performed at a temperature of about ambient temperature to about  $80^\circ\text{C}$ .
21. A process as claimed in claim 12, wherein the step c) is carried out in pyridine.
22. A method for controlling bacteria by applying new erythromycin A compounds of the general Formula (1).

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